Public Health Preparedness and Response for Bioterrorism
Focus Area C – Laboratory Capacity – Biologic Agents
Massachusetts State Laboratory Institute

The components of the State Laboratory Institute (SLI) strategic plan for Public Health Preparedness and Response for Bioterrorism (Focus Area C) are noted briefly as follows.

1. Develop and strengthen partnerships with clinical (Level A), Community Health Center and university laboratories; collaborative regional and local structures; infectious disease practitioners; local health agents and public safety professionals by providing training, communicating regularly through meetings, newsletters and websites and initiating collaborative projects.
2. Improve facility biosafety and security and specimen retrieval and delivery systems to strengthen testing capability and capacity, and assure resources for jurisdiction-wide and regional testing and training.
3. Increase the number of expert staff, and implement intensive cross training of critical staff.
4. Accelerate current development and implementation of a secure web-based remote order entry and rapid results reporting Laboratory Information System for electronic communication between SLI and state, local or federal surveillance programs, FBI and public safety agencies and Level A Laboratories.
5. Acquire, validate and maintain necessary equipment to support high-volume timely testing in improved BSL3 areas.
6. Develop new test methods and validate methods for BT agents to support the LRN and implement these procedures at SLI.
7. Provide regional services and assistance as needed to other states, including development and delivery of laboratory training programs, provision of specialized testing services, such as smallpox identification, and provision of surge capacity testing for the LRN.

Critical Capacity A (Laboratory Services): To develop and implement a jurisdiction-wide program to provide rapid and effective laboratory services.

Critical Capacity A1 SLI will enhance its plan to improve and strengthen established relationships between Level A laboratories and Level B/C laboratories. **(Critical Benchmark 10)**

Existing Capacity (A1)

- SLI provides a wet-lab training module for Level A Laboratories in procedures for current protocols to rule out critical BT agents. One microbiologist from 64/95 clinical laboratories has been trained as of March 2002.
- SLI moderates an Epi-X forum for clinical microbiology laboratories.
- SLI provides reference testing services to clinical laboratories for bacterial and viral isolates, which encourages timely submission of unusual organisms including suspect agents of concern, such as *Brucella* species, *F. tularensis and B. anthracis.*
- SLI provides a testing services manual on-line to aid in proper specimen and test selection.
- SLI provides packaging and shipping of infectious agents 'train-the-trainer' course through the Northeast Office of the NLTN.

Assessment of Adequacy (A1) This component requires continual improvement and increased resources in order to strengthen capabilities of Level A Laboratories, to expand training and education to include community health center laboratories and university laboratories and to aid communication.

Proposal for Effecting Improvements (A1) In order to implement improvements described here, two additional FTE positions will be required. One Bacteriologist III and one Administrative Assistant I for the Training Program.

- By September 2002, accelerate training in Level A protocols with up to 16 students trained each month.
- By October 2002, begin training for specimen collection and laboratory test interpretation for nurses.
- By March 2003, develop and initiate training programs for community health center laboratories and physicians.
- Continually update the on-line testing services manual to add testing services as available for BT agents.

Critical Capacity A2 Assure an integrated response plan that directs how the laboratories within our jurisdiction will respond to a bioterrorism incident.

Existing Capacity (A2)

- Roles and responsibilities have been defined for a core group of SLI staff who are reassigned as needed during a BT event, and laboratory staff are placed on an extended work day and weekend schedule; in addition a BT Lab Staff person and the Laboratory Director or designee are on 24/7 call.
- SLI provides testing services to other New England states for certain agents such as, botulism toxin and arboviruses; for PFGE analyses for selected bacterial pathogens; and for surge capacity testing.
- SLI plans are integrated with Massachusetts Emergency Management Agency (MEMA) ESF-8, and integrated with department-wide emergency response efforts as described in other Focus Areas (e.g., A and B).
- Specimen transport protocols currently are in place, and at least one microbiologist in every SLI section has been trained and validated in the proper procedures for packaging and shipping specimens. Approximately 75 microbiologists in hospital and clinical laboratories have been trained in the IATA regulations and have received SLI certification for packaging and shipping infectious specimens by air or ground.
- Result reporting is accomplished by SLI personnel and/or state epidemiologists, depending on the disease/test report, during and after normal business hours by telephone, fax and mail.
- SLI has developed procedures and protocols for telephone, fax and U.S. mail result reporting to law enforcement and public safety agencies.
- SLI is currently developing an Integrated Information System (SLIS), which will electronically link SLI, the Bureau of Communicable Diseases and clinical laboratories.

Assessment of Adequacy (A2) Significantly greater efforts are required to develop, implement and train additional laboratory personnel, both at SLI and Level A Laboratories to assure 24/7 testing on a sustained basis; to increase collaborations with university, clinical and other state public health, environmental, agricultural, veterinary and water laboratories, and speed implementation of secure electronic laboratory reporting. In addition, result reporting between clinical laboratories and SLI and between SLI and the State Surveillance and Epidemiology Program should be more efficient.

Proposal for Effecting Improvements (A2) To accomplish improvements described here, two additional staff members are required as well as funds for part time employees. SLI will hire one Management Analyst III who will assure effective management of all grant resources and facilitate administrative and financial operations and one EDP Systems Analyst III who will support LIS development.. One Laboratory Supervisor II (Peter Belanger, BT Laboratory Coordinator) currently directs intra- and interagency, and Level A coordination and communication for all laboratory resources in Massachusetts.

- By July 2002, expand the SLI BT comprehensive plan to describe roles and responsibilities of all SLI laboratory staff, individually or by sections as appropriate. (See Attachment 1, Flowchart for Processing and Testing BT agents).
- By July 2002, have the ability to hire part time telephone/data entry personnel to assist in providing surge capacity in a BT event or infectious disease outbreak.
- By September 2002, complete and submit for approval mutual aid agreements between Massachusetts and other New England states to describe and facilitate sharing of testing capacity.
- By October 2002, a crisis management center integrated with other department-wide emergency response efforts will be established, which can be activated to centralize critical laboratory communication and reporting functions during a bioterrorism or other emergency event. (Linked with Focus Areas A, B and F)
- By October 2002, cabling and routers will be updated to enhance the communication system for data handling and electronic laboratory reporting.
- By December 2002, SLI will meet with clinical laboratories and universities to identify and obtain surge capacity commitments for rule out testing, and additional testing (Level B) when appropriate.
- By March 2003, implement a statewide specimen delivery system to expedite transport of specimens to SLI and provide for interstate transport in the Northeast region, including a plan to manage surge capacity specimen shipments.

- By August 2003, SLI will develop the requirements for Remote Order Entry (ROE) and Remote Inquiry and Reporting (RIR) from off-site locations via secure web communications servers for more efficient and accurate specimen data submission and laboratory test reporting.
- By August 2003, a secure web browser application will be operational for results reporting to the state epidemiology program and local health departments on the SLI intranet, including secure remote dial-in access; and to a group of 3-5 clinical laboratory pilot sites and 2 local health jurisdictions via secure intranet server. (See Attachment 2, SLI Integrated Information System). (Linked with Focus Area E)

Critical Capacity A3 Enhance relationships with HazMat, First Responders, and FBI to provide laboratory support for their response to bioterrorism including environmental testing and chain of custody procedures.

Existing Capacity (A3)

- SLI has a 24/7 on-call pager system for laboratory staff that can be accessed through MEMA, the Boston Office of the FBI, the State Fire Services Office, City HazMat Teams (Boston, Cambridge, Springfield and Worcester) and the 24/7 State Laboratory Institute telephone number (617-522-3700).
- SLI has developed an educational program and presents information on laboratory procedures and capabilities, e.g., at 5 statewide regional meetings for local health, police and fire department personnel.
- Protocols and forms were developed with the input of the First Responder Community for submission of environmental specimens, including chain of custody procedures.
- SLI has the capacity to support the First Responder Community by providing environmental testing.

Assessment of Adequacy (A3) SLI has adequate capacity to respond in a timely manner to low and medium volume test request situations; however, high-volume test request situations overwhelm current capacity. In addition, the chain of custody system needs to be improved.

Proposal for Effecting Improvements (A3). In order to support these improvements, SLI will hire one Epidemiologist II.

- By September 2002 and on-going, SLI will provide infectious agents packaging and shipping training for the First Responder Community, including local health jurisdictions, local offices of major courier services, Logan Airport facility, public safety training academies and universities.
- By September 2002, chain of custody procedures will be updated and included in SLI Testing Services Manual.
- By October 2002, SLI will designate and train primary partner-specific laboratory contacts and back-ups, who will be responsible during an event for assuring regular communication of information between designated contacts of critical partners, including FBI, MEMA, State HazMat, U.S. Post Office, Chiefs of Police, Fire Chiefs, EMS districts and state environmental and agriculture agencies, as well as appropriate collaborative regional and local structures. This SLI team will work in the Crisis Management Center.
- By October 2002, SLI will hire an Epidemiologist II to work with the First Responder Community and develop effective relationships, document procedures, maintain contact lists, identify training needs and assure access to laboratory resources. This staff position will work with first responders to improve effective, credible field triage and prescreening (see B6; radiological, explosive, chemical screens) of environmental and other non-biologic specimens and develop an updated specimen triage protocol by December 2002.
- By March 2003, SLI will develop a formal training program for first responders and integrate this training curriculum into the Executive Office of Public Safety's Statewide Anti-Terrorism Unified Response Network (SATURN) initiative. (Attachment 3).

Critical Capacity A4 Enhance relationships with community laboratory practitioners, university laboratories, and Infectious Disease (ID) physicians.

Existing Capacity (A4)

- SLI is distributing a reference manual of SLI laboratory procedures for the identification of BT agents to the Chiefs of Infectious Diseases at hospitals.

- SLI has placed protocols and procedures for ID physicians on the Massachusetts ID Society Website and distributed these through hospitals to describe selection, collection and shipment of appropriate specimens for diagnosis of BT agents.
- The State Epidemiologist meets frequently with infectious disease practitioners at Massachusetts Medical Society meetings and coordinates presentations of information on BT agents and diseases, including testing and diagnosis.
- State Laboratory Director and State Epidemiologist hold regular monthly conference calls with hospital infectious disease and emergency room practitioners through their consortia and professional organizations, e.g., Cambridge Health Alliance.

Assessment of Adequacy (A4) Relationships with community laboratory practitioners, university labs and ID physicians have been continually improved, but the rate of improvement must be accelerated to respond effectively to high-impact emergencies. In order to enhance existing relationships with statewide health professionals, SLI must implement a major training and education initiative and will develop and implement joint seminars and presentations with appropriate professional organizations.

Proposal for Effecting Improvements (A4) In order to accomplish these improvements, one FTE position will be required to provide additional testing resulting from increased awareness following educational efforts. (See B1)

- By July 2002, SLI will distribute an electronic copy of its laboratory procedures manual for Level A Laboratories to all Infectious Disease physicians, and a hardcopy of the manual to the Chief of Infectious Diseases at every Massachusetts hospital.
- By November 2002, SLI will form a University/Biotechnology Working Group to discuss strategies for developing collaborations with universities and biotechnology companies for surge capacity testing, access to advanced instrumentation, methods development and training in advanced technologies.
- By December 2002, an educational curriculum on using and understanding laboratory testing for public health professionals and community lab practitioners will be developed and scheduled for presentations.
- By January 2003, SLI will convene a seminar for university laboratories to describe the Laboratory Response Network and testing methods in collaboration with the Northeast University Collaborative Initiative (new initiative lead by David Ozonoff, MD, MPH of BUSPH and Tony Robbins, MD, MPH, TUSM).
- By February 2003, a training module for community health center laboratories to increase understanding and participation in surveillance efforts will be developed in conjunction with collaborative regional and local structures.

Critical Capacity A5 Implement protocols and procedures for collection and shipment to CDC of blood and urine specimens related to chemical exposures.

Existing Capacity (A5)
SLI has an Environmental Chemistry Laboratory that has expertise and experience in the collection, shipment and analysis of biological specimens for chemical analyses.

Assessment of Adequacy (A5) Protocols and procedures for collection of appropriate specimens for detecting human exposure to chemical bioterrorism threat agents are not in place. Current SLI shipping protocols and procedures are appropriate.

Proposal for Effecting Improvements (A5) The CDC protocols and procedures for collection of appropriate specimens will be implemented by September 2002.

- SLI staff and epidemiology and immunization staff will ensure First Responders, local hospitals and collaborative regional and local structures have appropriate collection and handling protocols. This will be done in conjunction with Focus Area B.
- Specimens will be transported to SLI by contracted courier service.

Critical Capacity B (Laboratory Infrastructure): As a member of the LRN, SLI will ensure adequate and secure laboratory facilities, reagents, and equipment to rapidly detect and correctly identify biological agents likely to be used in a bioterrorist incident.

Critical Capacity B1 SLI will ensure the development of protocols for specimen transport and handling, worker safety, appropriate BSL working conditions for each threat agent, staffing and training of personnel, quality control and assurance, internal and external proficiency testing, triage procedure for prioritizing intake and testing of specimens before analysis, secure storage of critical agents, and appropriate levels of supplies and equipment needed to respond to disease outbreaks or bioterrorism events with an emphasis on surge capacities needed to effectively respond to a bioterrorism incident.

Existing Capacity (B1)

- Existing protocols are in place for the transport and handling of infectious disease and bioterrorism specimens. SLI has an in house training program that includes competency assessment.
- Worker safety is assured through on-the-job training (OJT) and competency assessment for each SLI employee before they are cleared for handling infectious substances. OJT is supplemented with annual courses on safety.
- SLI has initiated upgrades of BSL3 working areas dedicated to bioterrorism work.
- A team of employees is competent to manage testing, proficiency testing and maintenance of equipment required for BSL3 threat agents.
- QA/QC protocols and procedures are completed and updated as new methods/agents are made available.
- Proficiency Testing is completed, as new test panels are made available.
- Specimen triage protocols and an SLI intranet application have been developed to address the level of confidentiality and priority of individual bioterrorism specimens as well as the number of total specimens. (Attachment 4, BT Specimen Application).
- SLI has instrumentation for performing molecular assays and other test methods related to BT agents, as well as infectious agents. These include a Smart Cycler, a Light Cycler and the Gene Amp 5700. Supplies are available for methods protocols that are completed and updated.
- SLI has begun planning with other Massachusetts agencies that have laboratory capabilities, including the Massachusetts Water Resources Agency (MWRA), Massachusetts Department of Environmental Protection (DEP) and other Executive Office of Environmental Affairs agencies, the Massachusetts Department of Agriculture and the State Medical Examiner, to assess the needs for methods development, testing services for surveillance and for response to suspect contamination, training and education and communication capabilities.
- SLI currently tests specimens for the Bureau of Animal Health for infectious zoonotic agents such as rabies, WNV, EEEV as well as TB and other agents.

Assessment of Adequacy (B1) The current BSL3 area is not adequate to handle high throughput of specimens such as experienced during the recent anthrax scare. In addition, further improvements in the air handling system for BSL3 areas are needed (see B5). In order to meet the criteria of this component, SLI must augment and enhance BSL working conditions, staffing and training, QA/QC, triage procedures, and equipment and supply stocks, as well as identify surge capacity at other laboratories within Massachusetts and neighboring states. SLI does not currently provide parasitological testing for the state.

Proposal for Effecting Improvements (B1) In order to accomplish the improvements described here, which will increase testing capacity and capability, SLI will hire 3 Bacteriologist II FTE to aid the current Bacteriologist III FTE (Cheryl Gauthier), one Chemist III for the Molecular Diagnostics Lab Section and one Bacteriologist II for the Infectious Disease Laboratory. SLI is also requesting funds for overtime in the event of a BT event or infectious disease outbreak. The SLI strategic plan proposes 8-10 additional FTE positions (Bacteriologists and Chemists) to be hired after August 31, 2003. After new staff members are trained in conventional and molecular methods, experienced staff will be able to cross train in other laboratory methods. This will allow for surge capacity in the event of an infectious disease outbreak or bioterrorism threat.

- By June 2002, review and enhance personnel staffing/training protocol.
- By June 2002, protocols for critical agent storage will be updated and changes implemented.
- By June 2002, specimen triage procedures will be formalized to include assigned staff with alternates.

- By June 2002 surge capacity stocks evaluation will be completed and orders placed for additional supplies.
- By July 2002, in collaboration with MIT Lincoln Laboratory, Harvard Medical School and university consortium develop a plan for implementing PCR and/or electron microscopic testing for smallpox.
- By July 2002 and continuing through November 2002, SLI will begin hiring the 5 Bacteriologists to accomplish these goals.
- By September 2002, an additional locking refrigerator and locking freezer will be purchased to ensure secure storage of critical reagents.
- By October 2002, develop protocols for proficiency testing in Level A laboratories.
- By October 2002, implement serologic tests and validate rapid test methods (PCR) for varicella virus.
- By October 2002, contract with Tufts University Veterinary School to perform necropsy of animals with unexplained deaths.
- By November 2002 and on-going, enhance and increase laboratory testing, including molecular typing, for influenza, invasive bacterial diseases, vaccine preventable diseases, vector borne diseases and food- and waterborne diseases by hiring additional staff and increasing cross-training efforts.
- By January 2003, SLI will hire a consultant to perform a parasitology needs assessment.

Critical Capacity B2 Ensure capacity exists for LRN-validated testing of current and future Category A threat agents.

Existing Capacity (B2)

- SLI staff has been trained at CDC training programs and has subsequently trained additional staff at SLI. Staff has completed training for all conventional test methods and for available rapid test methods.

Assessment of Adequacy (B2) SLI has expertise in conventional and rapid test methods, but has limited numbers of staff in critical positions and needs to train additional staff.

Proposal for Effecting Improvements (B2)

- SLI will increase staff depth by training additional current staff and by hiring and training additional staff in the current and next Cooperative Agreement period (through 8/31/2004). (See B1)

Critical Capacity B3 SLI will ensure that at least one public health laboratory in its jurisdiction has appropriate instrumentation and appropriately trained staff for performance of PCR and TRF rapid assays.

Existing Capacity (B3)

- SLI currently has the ability to perform PCR and TRF for BT-related agents following approved protocols that are available through the CDC and the LRN. Necessary equipment is available for PCR assays (Light Cycler, Smart Cycler and Gene Amp 5700) and has been ordered for TRF (Victor 2). Staff has been trained at CDC for PCR and TRF assays.

Assessment of Adequacy (B3) Capability and capacity are adequate for low volume events and for timely testing of high priority specimens. Additional staff, training, and equipment will be necessary in order to maintain the current capacity as well as expand testing to a larger selection of organisms and increase testing capacity for high volume testing demands (surge capacity).

Proposal for Effecting Improvements (B3)

- By June 2002, a doctoral-level section chief will be hired to direct an expanded molecular diagnostic laboratory (SLI state budget).
- By August 2002, SLI will purchase an ABI 7000 and an additional Smart Cycler as well as a Qualicon Bax to increase testing capabilities for BT agents and other infectious diseases.
- By September 2002, a working group consisting of subject matter experts in specific organisms or methodology including molecular methods will be established to integrate advanced rapid identification methods into the testing algorithms as new tests are validated.
- By October 2002, regular communication on testing methods will be strengthened through a regional state public health laboratory working group.

Critical Capacity B4 SLI will conduct at least one simulation exercise per year that specifically tests laboratory readiness and capability to detect and identify one or more Category A list threat agents.

Existing Capacity (B4)

- SLI has not conducted a simulation exercise to test laboratory readiness.

Assessment of Adequacy (B4) A formal evaluation by simulated exercise has not been developed.

Proposal for Effecting Improvements (B4)

- Beginning October 2002, the SLI BT Laboratory Coordinator will identify and work with the Northeast University Collaborative Initiative (see A4) to develop a simulated exercise program in conjunction with DPH, the Massachusetts Medical Society, MEMA, and the collaborative local and regional structures, to carry out a statewide multi-site drill with downlink observation no later than August 2003. This will include Level A Laboratories and local first responders.

Critical Capacity B5 Ensure at least one BSL-3 facility in jurisdiction.

Existing Capacity (B5)

- SLI has one BSL3 area that includes appropriate security, functional separation of activities, appropriate BSCs, HVAC safeguards and pass-through autoclave. SLI has BSL2+ areas that are used for TB and other high-risk agents.

Assessment of Adequacy (B5). BSL3 area has been unreliable due to downtime associated with HVAC problems. Even when functioning, BSL3 area provides inadequate capacity for specimen testing demand that is likely to occur in Massachusetts and neighboring jurisdictions in the case of a BT event or significant infectious disease outbreak.

Proposal for Effecting Improvements (B5)

- By the dates noted here, improvements will be made to laboratories to assure adequate BSL3 areas for Massachusetts and regional surge capacity and training: 1) SLI BSL3 BT Laboratory air handling improvements by December 1, 2002; 2) Biocontainment equipment and improvements to TB Laboratory by September 2003. Improvements to the TB Laboratory, a 1000 sq. ft. laboratory area that includes a general microbiology lab area with pass-through autoclave and 6 isolated BSC rooms, will provide adequate BSL3 area to manage high-volume testing events as well as permit safe inspection and triage of specimens.

Critical Capacity B6 SLI will ensure that laboratory security is consistent, at a minimum with the guidelines set forth in BMBL appendix F.

Existing Capacity (B6)

- SLI security procedures and facilities are consistent with guidelines set forth in BMBL appendix F.
- Currently, any specimen submitted by a HazMat team is screened for radiological, explosive and chemical risk; however, many specimens are submitted from other sources without the appropriate screening.
- Limited video surveillance of the SLI employee parking lot currently exists.

Assessment of Adequacy (B6) Procedural and facility aspects of security are appropriate for current alert level response; however, higher alert level response will require more stringent procedural and facility related security capabilities. Risk assessment of suspect specimens is not consistently adequate.

Proposal for Effecting Improvements (B6)

- By September 2002, the current card key restricted access to the BSL3 laboratory will be updated to electronically record all entries including visitors and will be extended to all critical laboratory areas.
- By November 2002, HazMat coordination will be reviewed to assess capacity for screening specimens, which are submitted directly to SLI, for radiological, chemical and explosive hazards.
- By November 2002, evaluate capacity of First Responder Community to triage bioterrorism specimens and develop closer coordination to ensure safety of laboratory operations.

- Following the above reviews, if needed, add a biological chemical safety hood, Geiger counter, portable GCMS and photoionization detector to the specimen receiving area for evaluation of specimens not cleared by Hazmat personnel or first responders.
- By November 2002, renovate the front entrance of SLI to provide greater security for personnel and safer delivery of specimens.

Critical Capacity B7. Enhance electronic communications within the LRN to enable capacity monitoring, sentinel surveillance, proficiency-testing support, multi-center validation studies, and support for future enhancements.

Existing Capacity

- SLI has adequate capability to communicate to LRN via the Internet, fax and telephone (land lines, cellular and Nextel).
- SLI participates in method validation studies.
- SLI participates in proficiency-testing programs.

Assessment of Adequacy. SLI has significant capability and capacity for participation in validation studies, and information systems development. SLI maintains regular communications with the LRN and supports all functions of the LRN. Response time for network failure must be more timely.

Proposal for Effecting Improvements.

- By July 2002, SLI will assure accordance with NEDSS standards in developing the SLIS. (See Focus Area E)
- By October 2002, SLI will develop a joint plan with the State Information Technology Division to improve performance of Internet access and response time for addressing problems.
- By February 2003, SLI will develop proficiency testing programs for Level A laboratories that assess and track testing performance for potential BT agents.

Critical Benchmark 10
Focus Area C – Massachusetts State Laboratory Institute

The Massachusetts State Laboratory Institute will ensure effective working relationships and communication between Level A (clinical) laboratories and higher level laboratories as indicated in the following timeline.

- As of April 2002,
  - SLI provides a lecture and wet-lab training module for Level A Laboratories in procedures for current protocols to rule out critical BT agents. One microbiologist from 64 of 95 clinical laboratories has been trained.
  - SLI provides a testing services manual on-line to aid in proper specimen and test selection and continually updates this manual as new testing services become available.
  - SLI moderates an Epi-X forum for clinical microbiology laboratories.
  - SLI provides reference testing services to clinical laboratories for bacterial and viral isolates, which encourages timely submission of unusual organisms including suspect BT agents, such as *Brucella* species*, F. tularensis and B. anthracis.*
  - SLI provides packaging and shipping of infectious agents 'train-the-trainer' course through the Northeast Office of the NLTN. Approximately 75 microbiologists in hospital and clinical laboratories have been trained in the IATA regulations and have received SLI certification for packaging and shipping infectious specimens by air or ground.

- July 2002, provide packaging and shipping of infectious agents 'train-the-trainer' course through the Northeast Office of the NLTN.
- August 2002, initiate development of training course for specimen collection and laboratory test interpretation for nurses.
- September 2002, begin accelerated schedule of training in Level A protocols for 8-16 students per session, including those from additional hospitals and multiple staff members from the original hospitals.
- October 2002, begin training for 10-15 public health and hospital nurses per session regarding specimen collection and laboratory test interpretation for BT agents as well as for appropriate collection of biologic samples following a suspect chemical terrorism event.
- October 2002, hold Level A protocols training course.
- October 2002, provide packaging and shipping of infectious agents 'train-the-trainer' course through the Northeast Office of the NLTN.
- November 2002, hold Level A protocols training course.
- December 2002, hold Level A protocols training course
- January 2003, hold Level A protocols training course.
- January 2003, hold training course for nurses.
- January 2003, provide packaging and shipping of infectious agents 'train-the-trainer' course through the Northeast Office of the NLTN.
- February 2003, hold Level A protocols training course.
- March 2003, hold Level A protocols training course.

- By March 2003, develop and initiate training programs for community health center laboratories and physicians to assist in collection of appropriate specimens and interpretation of laboratory test results for BT agents.
- April 2003, hold Level A protocols training course.
- April 2003, hold training course for nurses.
- April 2003, provide packaging and shipping of infectious agents ‘train-the-trainer’ course through the Northeast Office of the NLTN.
- May 2003, hold Level A protocols training course.
- June 2003, hold Level A protocols training course.
- June 2003, develop and initiate training programs for community health center laboratories and physicians.
- July 2003, hold Level A protocols training course.
- July 2003, hold training course for nurses.
- July 2003, provide packaging and shipping of infectious agents ‘train-the-trainer’ course through the Northeast Office of the NLTN.
- August 2003, hold Level A protocols training course.